

# Genders' Differences in Evaluation of Web Advertisement

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## Abstract

This paper reviews the application of ELM to understand how men and women differ in their evaluation on information content and the visual presentation used in web advertising. ELM is verified by examining several variables influencing consumers' beliefs in web ads. These variables include (a) advertising appeals(rational/emotional) , (b) personal and product involvement (high/low) , (c) the gender (female /male) . A survey covering 591 Internet users investigated by a 2×2×2 ANOVA between-subjects experimental design is used to guide the research design and the systematic analysis procedure. The result of this finding is that in high-involvement situations, people are more likely to click a Web ad with a rational advertising appeal in contrast to an ad with an emotional advertising appeal. It is also found that a rational advertising appeal ad compared to an emotional advertising one is evaluated more favourably by males than that by females.

## Keywords

*ELM; Advertising Appeal; Personal and Product Involvement*

## Introduction

The Internet is becoming a more important marketing channel in both business-to-business ( B2B ) and business-to-customer ( B2C ) markets. It is projected that over 11 percent of the world's population now has access to the Internet. It forms not only an online community platform but also a shopping place where consumers can seek and share shopping information. Consumer interactions with Internet advertising will be influenced by their Internet use motivations. For example, a consumer who uses the Internet for writing a research paper will be less likely to click on a pop-up banner ad that disrupts his/her work. On the other hand, a consumer who plans to purchase a vacation package is more likely to view an Internet travel advertising or related Websites. As Web use by both

males and females continues to grow, it is becoming clear that genders make use of the Web differently. Additional knowledge concerning the Web's gender-specific advertising behaviour is needed.

For example, there is some evidence to suggest that male might better process technical product information in graphical forms because visual depictions are conducive to right-hemisphere procession. Whereas female, technical product information might be better processed if presented in verbal prose, which is more compatible with left-hemisphere processing. Despite a recent surge in the use of the Internet by women, there is a great deal of evidence suggesting that the Internet remains less hospitable to women than that to men resulting in fewer women than men using the Internet.

On theoretical grounds, involvement does not systematically lead to the expected differences in behaviour. They depend on certain facets (risk, symbol, pleasure, importance), as measured here by the involvement profile. In this article, the involvement profile is a basis for segmenting markets and guiding the advertising strategy. Differences have been seen in male and female Web users' perceptions of Web advertising, use patterns, and online privacy concerns and behaviours. Additional knowledge concerning the Web's gender-specific advertising behaviour is needed. Therefore, we have unexplored questions, such as:

*How do the gender respond to the personal and product involvement and affinity for appeal types of Web advertising?*

The goal of this research is to examine the factors influencing male/female advertising belief on the Internet and to test their proposed inter-relationships.

## Literature Review

### *Elaboration Likelihood Model*

The ELM (the elaboration likelihood model of persuasion is a theory about the processes responsible for yielding to a persuasive communication and the strength of the attitudes that result from those processes) assumes that the very first stage of the persuasion process is awareness through advertising exposure. According to the ELM, there are two different persuasion routes that consumers follow when they come across persuasive communication: (1) the central route and (2) the peripheral routes. When consumers have high involvement (personal or situational) to process communication, they are willing or able to exert a lot of cognitive processing effort, called high elaboration likelihood.

In this situation, central cues such as existing beliefs, argument quality, and initial attitude are important in determining persuasion effects (i.e., enduring positive attitude change or boomerang effects). In contrast to high involvement situations, consumers are either not willing or unable to exert a lot of processing effort. In this low elaboration situation, peripheral persuasion cues such as attractive sources, music, humour and visuals are determining factors of persuasion effects (a temporary attitude shift or retaining the initial attitude). The third way in which a variable influences persuasion is by affecting (a) the extent of argument elaboration (i.e., the extent to which a person is motivated and/or able to evaluate the central merits of the issue-relevant information presented) and (b) the direction of elaboration (i.e. whether the thoughts elicited are relatively favourable or unfavourable).

Some factors are situational factors, whereas others are individual factors. Some variables influence the extent of information processing, whereas others tend to influence the direction of thinking (i.e., objective or biased processing). Based on the above mentioned information processing in the Internet from that in the traditional media, factors that enhance the effects of web ads, such as product and personal involvement and advertising appeals have been explored in next sessions.

### *Personal and Product Involvement with Advertising Appeals*

As long as consumers have an opportunity to be exposed to a Web ad, what are the variables determining the clicking of ads? The clicking of the ad

is totally voluntary. The most important determining factor of clicking an ad is the level of involvement (i.e., personal relevance and product category involvement). The ELM suggests that the relationship between involvement and attitude might be influenced creative strategy. In short, motivation to process ad content (i.e., level of involvement) is the most important determining factor for banner click ability. Consumers have high motivation to process advertising messages due to high personal relevance, high product category involvement, and high need for cognition. In these situations, consumers are more likely to demand greater information to satisfy their intrinsic need for information and cognition; that is, they are more likely to request more information by clicking banners in order to see detailed ad content compared to consumers in low-involvement situations. This can be called the central route to voluntary exposure.

In contrast, consumers in low involvement situations (low personal and product involvement) have low motivation to process advertising messages, and they are less likely to request more information, i.e., less likely to click ad to see more detailed information. However, they follow another route to clicking ad—the peripheral route to voluntary exposure. When consumers are not highly motivated to process further ad content, they do not want to engage in message-related thinking; rather they are more likely to focus on available peripheral cues. In other words, favourability of peripheral cues will influence click ability of ads in low-involvement situations. In the case of banner ads, attention-getting or curiosity-generating peripheral cues would be novelty or contrast-related components of web ads, such as bright colours, and attention-getting animation.

Gaining consumers' attention and the generation of favourable attitudes are two key advertising objectives. An important issue is the design and appeal of advertising message. One of the fundamental elements related to advertising strategies is the selection of an appeal. Turley and Kelly pointed out that advertising appeals are commonly categorized into two broad types: (1) emotional appeal and (2) rational appeal. Previous research has indicated that effectiveness of advertising appeals depended on types of advertised products.

### *Rational and Emotional Advertising Appeals*

Cacioppo and Petty reported that people show unfavourable attitudes toward a high exposed,

emotional advertising appeal for high-involvement product. On the other hand, to provide a theoretical foundation for the hypotheses, this paper examines some of the literature on approach response to emotional ads appeal. An emotional advertising appeal differs from a rational one in components, such as attention-getting animation/image, positive/negative emotional stimulation and attractive visual text or graphic. It does not highlight the functional features or information cue of the product (or brand), whereas it focuses on symbolic, attractive attributes and peripheral cues (e.g. celebrity, ads bright colour or advertising exposure intensity).

As a result, Internet advertisements employing both emotional and rational advertising appeals are common practices applied by Internet advertisers nowadays. Consumer interactions with Internet advertising will be influenced by their Internet use motives. For example, a consumer who uses the Internet for writing a research paper (goal-oriented 0 will be less likely to click on a pop-up, emotional appeal banner advertising that disrupts his/her work. On the other hand, a consumer surfing on the Internet will be more likely to click on a web ad with bright colours, attractive words or attention-getting animation.

Additionally, under low-involved situations specific processing ad content of the messages is not necessary. Rational advertising appeal can help market high-involvement products, whereas emotional appeal ad is favorable for low-involvement products in traditional media. Hence, it is proposed that,

*H1a:* For high-involvement product, people will report stronger belief toward a rational Internet advertising appeal relative to an emotional advertising appeal.

*H1b:* For low-involvement product, people will report stronger belief toward an emotional Internet advertising appeal relative to a rational advertising appeal.

### ***Gender Different Beliefs on the Web***

It is believed that male is more likely compared to female to search for product or service information and exhibit more positive attitudes toward advertising on the Web in general versus female due to the interactivity. It is found that male students also reported better overall attitudes toward e-shopping than female students. Other researchers have found similar results, suggesting that males use the Internet for shopping purposes compared to females. In other

words, female is likely to engage in an easily comprehensive elaboration and more emotionally attached to the possessions than male.

If this is true, then we might expect differences in the manner in which male/female perceives persuasion from online Web ads. In the concept of gender difference, female is likely to engage in an easily comprehensive elaboration and more emotionally attached to the possessions than male. Given that females process information more deeply than males, they are also likely to be sensitive to the use of more information cues than female. Hence, it is proposed that,

*H2a:* Males in contrast to females will evaluate a rational Internet advertising appeal with stronger belief.

*H2b:* Females in contrast to males will evaluate an emotional Internet advertising appeal with stronger belief.

### **Methodology**

By means of a behavioural online environment database at a Web site along with individual advertising exposure, we measure the impact of different appeal, involvement on gender's beliefs toward the web ad. To surmount difficulty and make a breakthrough in online consumer behaviour research, a 2x2x2 ANOVA between-subjects experimental design is used to guide the research design and the systematic analysis procedure; and the manipulated construct is (1) advertising appeals (rational/emotional) and moderator is (1)level of personal involvement (high /low), (2)the gender (male /female). A fictitious digital camera is used as a high-involvement experimental product and a fictitious toy as a low-involvement one (which were selected from the pilot test). These subjects are Internet users all with online shopping experience. 4 kinds of combinations of web ads have been designed which have identical layout to measure subjects' ad belief with a battery of 7 point Likert scale.

These experiments conducted an online feedback by cooperation with one well-known Website in Taiwan (www.payeasy.com.tw). Samples randomly chosen from their database and e-mails were sent to Website's newsletter subscribers' e-mail addresses according to Web databases. Different Internet advertisements were developed to remove extraneous factors when existing Internet advertisements were used. Interface designs,

layers of information, and layouts for Internet advertisements were made identical to control potential confounding variables. Only pictures of the products, fictional brand name, and product description were manipulated to correspond to product characteristics and advertising appeals.

Consumers' beliefs in the ad is found to be comprised and affected by factors such as, the congruence of the web, and other salient factors (e.g., online experience, brand loyalty, cognition of featuring; etc.) that might affect consumers overall perception. However, our major purpose is to investigate the main and interactive effects of advertising appeals, personal and product involvement levels and the gender difference (female /male); therefore, we choose subjects that have online shopping experience and other variables are in consideration (e.g., product information search and limited control over web ad layout) regarded as controlled variables.

### ***Pilot Test***

Conducting a pretest, we evaluated the content validity of the items by subjecting them to 180 college students in department of business administration at the Transworld University in middle Taiwan and 180 working adults all with online shopping experiences (The proportion of male/female participants in the pilot test is equal). The survey site was hyperlinked to a web within our school server. The experiments employed separate between-group subject designs individually, where each subject was randomly exposed to experimental treatments. Subjects were told that the purpose of the study was to evaluate a new website with an ad. The last part of each website was linked to a web page containing a questionnaire.

Twenty product categories were used to measure the level of involvement. Those are all virtual products categories used in the experiment (e.g., clothing, camera, sunglass, shoe, bicycle, book, toy, et. al.). After pretest, the digital camera is selected as the highest involvement product ( $X_{\text{mean}}=6.35$ ;  $p<0.1$ ) and the toy ( $X_{\text{mean}}=1.15$ ;  $p<0.1$ ) as the lowest involvement one. After that, 2x2 appeals (rational and emotional) of the ads are designed for the highest and the lowest personal involved products from the pretest; and each subject was randomly selected to the cells, and in each experimental group a questionnaire has been given to answer what was divided into two parts.

For Part I, each subject was asked to answer questions by viewing the ad placed on each Web site. After completing Part I, each subject was asked to continue with Part II of the questionnaire, in which him/her was asked about several questions, demographic information. The participation for each subject took approximately 10 minutes.

Prior to testing the hypotheses, a reliability analysis for these constructs is reported. Reliability factor indicated high internal consistency for those constructs (all  $\alpha>0.80$ ), which together with statistical properties indicates that the three theoretical constructs assess convergent validity by extracted variance (.5). As a type of validity check, aggregated scores on the items were correlated with scores on the single item. Therefore, this simpler has been employed, one-item measure of constructs as our bases to classify a subject's status.

### ***Main Experiment Procedures***

We chose respondents from database (offered by: www.payeasy.com.tw) (2012/12/01~12/30) to send e-mail. The subjects were randomly selected from the members and divided into two kinds of e-mail groups (male/female) to review the web advertising and then complete the online survey. To avoid redundant replies, the members must key in his/her account number, the password and his/her identification number, then they can participate the online investigative. If he/she is redundant replied, the program will tell him/her "You have replied this questionnaire, Sorry! It's unable to reply once more."

Prizes (i-pod shuffle) were offered for randomly selected winners from all completed questionnaires and sent to his/her address in the database. One thousand e-mails were sent to the customers with online experience, and 625 customers have finished the online questionnaire (the respondent rate is nearly 62.5%). Out of 625 surveys, 591 were usable for the analysis in this research (the others are uncompleted or outliers). Sample Characteristics of Experiment is showed in Table 1. Demographically, the male and female respondents were similar in age (about 75% of both men and women were under 25 years;  $\chi^2(5) = 1.41$   $p>0.1$ ) and education levels (around 68% of both men and women had college degree;  $\chi^2(3) = 5.66$   $p>0.1$ ). In addition, male and female had similar online purchase habits ( $\chi^2(3) = 1.92$   $p>0.1$ ). The information showed the sample was representative of the online population.

TABLE 1 SAMPLE CHARACTERISTICS OF EXPERIMENT  
(NUMBER=591)

c	Percentage
<b>Gender</b>	
Male	51.5
Female	48.5
<b>Age</b>	
Under 10 years	0
10-20 years	6.8
21-30 years	49.5
31-40 years	23.1
41-50 years	14.1
Over 50 years	7.1
<b>Education Level</b>	
Under High/trade school	3.3
High/trade school	8.3
College	69.7
Post college graduate	18.7
<b>Online purchase frequency</b>	
Below one time/per month	23.5
1-2 times /per month	44.1
3-4 times /per month	16.5
Over 4 times /per month	15.9

## Analysis and Results

The purpose of this experiment is to examine the interactive effects of those constructs mentioned above. The tests results are showed in Table 2 and ANOVA test Results are showed in Table 3.

TABLE 2 OPERATIONAL RESULTS OF CONSTRUCTS

Group		Rational appeal ad			Emotional appeal ad		
		Average	Standard Deviation	t-value	Average	Standard Deviation	t-value
male	High personal and product involvement	4.2	0.25	32.68**	2.7	0.17	38.16**
	Low personal and product involvement	2.4	0.27	35.10**	3.0	0.20	33.47**
female	High personal and product involvement	3.8	0.19	31.46**	2.9	0.23	28.20**
	Low personal and product involvement	2.5	0.20	32.88**	4.0	0.21	27.47**

\*\* p<0.01, \* p<0.05

TABLE 3 ANOVA TEST RESULTS

Source of variation	Degree of freedom	Mean of Square	F-value	P-value
Ad appeals (1)	1	170.81	465.47	0.000**
Gender (2)	1	10.38	28.28	0.000**
Personal and product involvement (3)	1	8.19	22.32	0.000**
1×2	1	5.55	15.13	0.000**
1×3	1	72.67	198.03	0.000**
2×3	1	3.85	10.51	0.01*
1×2×3	1	4.68	12.75	0.000**
Error	584	0.36		
Total	591			

\*\* p<0.01, \* p<0.05

## Main Effects of the Experiment

Results in Table 3 significantly show that sample subjects' beliefs in ad are separately affected by advertising appeals, the personal involvement and the difference of gender (the simple main effect of p-values are significant). Furthermore, from Table 3, the mean values indicate that female' beliefs in emotional ad will be more positive than male' no matter in high or low-involvement product, which is an additional finding.

## Interactive Effects of the Experiment

As results showing in Table 3, through a three-way ANOVA analysis, this finding results in two conditions:

- As it can be seen (Figure 1) that a high involvement people with a high involvement will increase their Web ad belief when the ad has been presented with a rational appeal; and a rational appeal ad increases their web ad belief despite the difference of involvement (Mean<sub>rational</sub>=4.00 vs. Mean<sub>emotional</sub>=2.49, the difference is statistically significant); while in a low involved situation, people prefer the emotional appeal design (Mean<sub>emotional</sub>=3.50 vs. Mean<sub>rational</sub>=2.80, the difference is statistically significant). *The interaction test does stand the hypotheses H1a and H1b.*
- Figure 2 shows that male will have more positive beliefs in web ad when the ad has been presented with a rational appeal way; (Mean<sub>male</sub>=3.40 vs. Mean<sub>female</sub>=2.85, the difference is statistically significant); while for emotional appeal situation, female prefer the emotional appeal design (Mean<sub>female</sub>=3.49 vs.

Mean<sub>male</sub>=3.15, the difference is statistically significant). *The interaction test confirms the hypotheses H2a and H2b.* Therefore, one may conclude that male may have more favourable interest or belief toward an advertisement presented in a rational way than toward an advertisement presented in an emotional way.

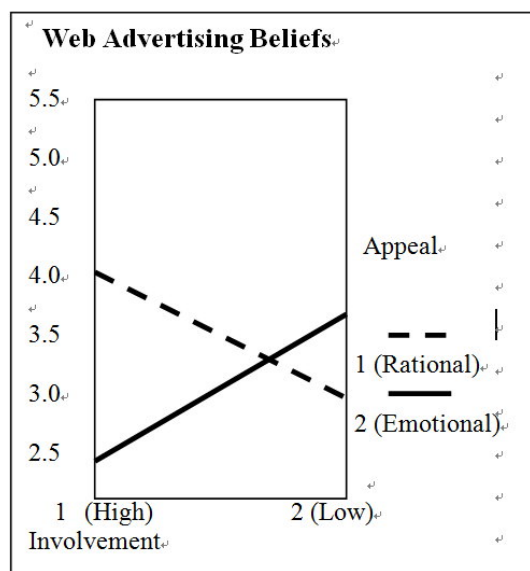


FIG.1 INTERACTIVE EFFECTS OF INVOLVEMENT AND APPEAL

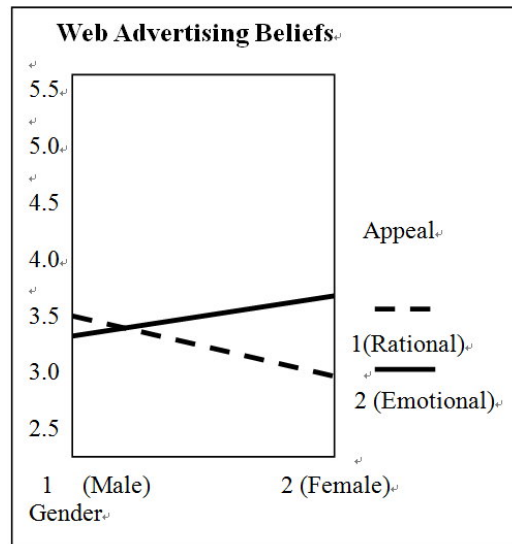


FIG.2 INTERACTIVE EFFECTS OF GENDER AND APPEAL

In our experiment, it can be explained by the interactive effects that male prefer the rational advertising on the Internet because of the delivered messages. Our findings reveal that men in our sample are less satisfied with emotional ads than female, presumably because they are sceptical of its informational content and unfavourable with the clutter ads.

## Conclusions and Limitations

### Theoretical Discussion

The objective of this study was to provide insight into factors influencing male/female advertising belief on the Internet and to test their proposed inter-relationships. In the realization of that goal, a 2×2×2 between-subject online experiment was designed. An on-line survey of Internet users was employed to support the hypotheses, and to suggest additional implications. Possible contributions of the present study are threefold.

Firstly, this study explores the different behaviour of gender's exposure to ads on advertising responses such as advertising awareness, clicking of ads, and ad attitude. As predicted, the rational advertising appeal can attract people with high involvement to click the ad (H1a and H1b).

Secondly, this study offers the first attempt to build a comprehensive thought explaining the behaviour of males'/females' clicking ad on the Internet. Finally, it employs gender factor, which is excluded in previous studies. This yielded a significantly higher explained variance compared to previous ad studies on Internet.

In light of the limitations stated above, future research in this area should be suggested to include research on different gender's information processing of Internet advertising. In this sense, this paper provides some groundwork in this field. Most studies on Internet advertising have been conducted by web publishers on audience measurement data (e.g., how many people visit their sites, or how many people are exposed to ads, etc.). But this kind of result-oriented data does not provide the understanding of consumers' step-by-step information processing (e.g., why people click ads and why they click one ad more than another). In conclusion, information processing of Internet advertising is too important to leave unstudied, therefore, more future studies on this area are strongly recommended.

### Managerial Implications

This paper provides managerial implication for online market strategy maker to manipulate the gender orientation advertising male, female or neutral. Practically, this paper shows marketers that they can manipulate Web advertising appeal type using different personal and product involvement. From

managerial implication point of view, the findings of this study suggests that anything that impairs efficient interactivities between consumers and advertiser, such as placement, timing, and size of ads, can affect perception and be viewed as clutter. Therefore, Internet advertisers and publishers should understand that too much ad clutter could possibly reduce the collective effectiveness of Internet advertising.

### *Limitations and Future Research*

Firstly, the study focused on the role of involvement and exposure way in consumers' clicking ad intention without offering a micro-level explanation of the mechanism by which this happens. That is, there are different psychological factors affecting consumers' clicking the ad, such as avoidance behaviours, prior negative experience, the context of ad; etc. To develop consumer continuance intention to click Internet ads, it is essential to create consumer satisfaction toward ad services and increase perceived incentive and utility for clicking on ads.

Secondly, the presence and importance of avoidance reasons may vary with specific user situations, not only for involvement reason. For example, people who search for specific information in a limited amount of time may have different reasons to avoid ads on the Internet (e.g., time pressure, irrelevant or non-targeted ads, no cognitive resources to devote to ads, etc.) in contrast to those who use the Internet to pass time or for pure entertainment purposes, and whose possible avoidance reasons may include "*Internet ads are not fun, trustful, practical,*" and so forth. Therefore, the future study on consumers' behavior on the Internet should be discussed more in details.

This study attempts to fill the gap in the Internet advertising literature by researching the effects on different genders' motivations toward advertising appeals. The investigation of human cognition and behavior in the virtual world seems to be a task that is as interesting as it is complex. As evidenced by the research project, the investigation of the interest or belief toward the product and persuasion in the virtual world appears to be a field in need of systematic-programmatic research; specially, the further research should consider the different cognitions of diverse gender samples. Given the complexity of Internet consumer behavior as suggested by scholars, more researches are clearly needed.

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